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ABSTRACT

This study examined the role of perceived control in mediating the effects of job stress on personal and occupational outcomes, and on enhancing the positive effects of stress on personal and organizational outcomes. Civil service employees working in Child Protective Services in Upstate New York (N=129) completed questionnaires measuring their perceptions of three types of job stress (ambiguity, conflict, and overload) and read three scenarios of job stress relevant to their own jobs, reporting how stressful such a situation was for them when it occurred and the extent to which they felt that they could control the source of stress. Job satisfaction, occupational self-esteem, and psychological adjustment were also assessed. The results indicated that subjects perceived their jobs to be moderately high in stress and low in control. The sample reported overload situations to be the most stressful type of job stress and also seemed to feel the least amount of control over overload situations. In general, the findings indicated that stress from certain categories of job experiences was related to and predictive of the development of some competencies and not others. In all cases where stress was predictive of the development of a competency, perceived control served to mediate the negative effects of stress. Other findings showed that stress was not always associated with a negative outcome and may in certain cases be beneficial. (NB)

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Some Stress and Lots of Control:
The "No Pain, No Gain" Recipe for Personal Competence
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Running head: SOME STRESS AND LOTS OF CONTROL

Some Stress and Lots of Control:

The "No Pain, No Gain" Recipe for Personal Competence

Stress, in the most general sense, has historically been viewed as noxious to the physical well-being, psychological adjustment and social development of the individual (Cannon, 1929; Selye, 1956; Lazarus, 1966). Inherent in most definitions of stress is the notion that stress is growth-inhibiting rather than growth-promoting. Although most researchers would agree that this notion of stress can be empirically demonstrated and is clinically valid, there is increasing interest in the role that stress may play in the enhancement of personal development (Cohen, 1981). It has been found that some people seek out highly stressful environments (Klausner, 1968). Cohen (1981) has proposed that stress-seeking may be a way to test one's competence, build feelings of mastery and self-esteem, or relieve boredom and has called for systematic studies to answer the question: "Are stressful experiences growth-promoting and if so, under what conditions?". This study examined the role of occupational stress on the development of personal and organizational competencies.

The negative effects of job stress on the development of personal and organizational competencies has been the focus of many empirical endeavors. Several features of the work environment have been shown to have significant relationships to employees' emotional and physical functioning. A study by Billings and Moos (1981) found that persons perceiving their job settings as high in work stress as characterized by high work pressure, supervisor control, lacking autonomy and clarity, low in

work resources, low involvement, low peer cohesion, and low supervisor support reported higher levels of physical symptoms and poor psychological adjustment. According to Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964), the consequences of chronic job stress are poor staff morale, decreased self-esteem of workers, feelings of dissension amongst the staff, apathy, confusion, feelings of futility, decreased satisfaction with the job, decreased self confidence, a preoccupation with peer evaluation, and uncertainty about job security and opportunities for advancement. In general, most researchers would agree that stress represents a condition that people do not like and is perceived as noxious and uncomfortable or reminds people of their own incapacity to alter the undesired, unwanted conditions of their lives (Pearlin and Schooler, 1978). The negative effects of stress on the development of both organizational and personal competencies is abundant in the literature on occupational stress whereas the potentially positive role of stress in this process is not typically mentioned.

The belief that stress is not always noxious and, in some cases, may actually play a growth-promoting role in personal development, is presented briefly in two discussions from the fields of childhood and life-span development. Murphy (1962) has observed that certain stresses are inevitable throughout the life cycle and that most persons seem to cope with them and not suffer the adverse effects described by Cannon (1929), Selye (1956) and others. Block (1971) posits that people may have to experience distress in order to develop competencies, increase self-esteem

and enhance later performance. Implied in both of these statements is the notion that it is not simply the experience of stress that is growth-promoting, but rather the responses of the individual to the stress that play a role in the development of competencies.

One category of stress that has not popularly been received as growth-promoting is conflict. Conflict involves the simultaneous presence of two incompatible goals. These goals are incompatible because the actions necessary to achieve each goal are diametrically opposed, so frustration or threat is inevitable (Monat and Lazarus, 1985). Role conflict, as it is called by those in the field of occupational stress, is defined as the simultaneous occurrence of two or more sets of pressures such that compliance with one would make more difficult compliance with the other (Kahn, et al., 1964). Conflict, however, is a lifelong problem existing in all psychological and social domains, yet most persons do not appear to suffer from any adverse effects due to conflict in certain situations. One domain where conflict is present is in the occupational setting.

Role ambiguity and overload are two other proposed sources of stress in Kahn's Role Theory of Stress. According to Kahn et al. (1964), role ambiguity exists when certain information required for adequate role performance is not obtainable. Role overload is defined as a type of conflict in which various role senders (two supervisors) may hold quite legitimate expectations that a person perform a wide variety of tasks, all of which are mutually compatible in the abstract, but may be impossible for the employee to complete all of them within the given time limits. Role ambiguity, role conflict and role overload are not totally distinct categories

of job stress. Role conflict and ambiguity tend to co-occur but research suggests that job stress does break down fairly consistently into these three broad categories (Kahn, et al., 1964). This paradigm was used in the present study because it has been applied extensively for twenty years and has exerted a standardizing influence on job stress research.

Pearlin and Schooler (1978) have elaborated the concept of stress in what they refer to as role strain. Unlike Kahn's view of roles as a source of stress, Pearlin and Schooler argue that the nature of the role task as conflictual is not enough to account for the strains that people experience. Peoples' subjective evaluation of the tasks (perceived stress), their sense of whether they are receiving fair and just rewards for their efforts (satisfaction), their perceptions of control over the task (perceived control) and the objective properties of the task determine whether or not role strain will result. So it follows then from Pearlin and Schooler's elaboration of role stress that in some cases a situation that should be experienced as stressful by its very nature may not be perceived as stressful and noxious because of certain factors.

Cognitive competencies, such as perceived control, have been found to mediate or nullify the effects of environmental stress thereby resulting in a less noxious outcome for the individual and the organization (Kahn, et al., 1964; Pearlin, 1975b; Pearlin and Schooler, 1978). Perceived control, defined as the extent to which a person has developed a view of themselves as able to control or change a situation, reduces the noxious effects of stress by providing the person with a sense of mastery over his or her environment that results in a sense of comfort (Seligman, 1975; Seligman &

Schulman, 1986). In a similar discussion, Pearlin and Schooler (1978) claim that there are two aspects of the self that become particularly vulnerable to injury by the persistence and intractability of role strain: mastery and self-esteem. Mastery refers to the extent to which people feel that they are able to manage and control the forces that importantly affect their lives. The present study was concerned with the role of perceived control in not only mediating the effects of job stress on personal and occupational outcomes, but on enhancing the positive effects of stress on personal and organizational outcomes.

Of particular interest in the present study was the positive effects of occupational stress, when mediated by perceived control, on job satisfaction, occupational self-esteem and psychological adjustment. All of these variables are believed to reflect the development of personal and organizational competencies. Job satisfaction, defined as the extent to which one feels that his or her job meets his or her needs as determined by the individual, has been found to be negatively related to job stress (Kahn, et al, 1964) and not adequately studied in relation to perceived control. Occupational self-esteem, defined as the extent to which one derives positive feelings about oneself and the functions he or she performs at work has been found to be negatively related to job stress (Kahn, et al, 1964) and not adequately studied in relation to perceived control. Psychological adjustment, defined as the degree to which a person perceives an absence of distressing cognitive, emotional and physical symptoms in his or her present state has been found to be negatively related to stress in general

(Cannon, 1929; Kahn, et al., 1964; Selye, 1956) and negatively related to perceived control (Seligman, 1975; Seligman & Schulman, 1986). Previous studies have failed to look beyond the traditional mediating role played by perceived control in the relationship between job stress and outcomes, where the result of the mediation is a less negative outcome, to a mediating role that results in a positive outcome.

Based on the previous discussion, it is evident that certain conditions must exist for a situation to be perceived as stressful, as previously noted by Pearlman and Schooler (1978). As mentioned before, it has been found that some people seek out highly stressful environments (Klausner, 1968). I believe that people select themselves into high stress occupations because these situations are perceived primarily as stressful and therefore necessary for competence building. I propose that the outcome of the stressful occupational experience will build competence when the person has developed high levels of control that in turn mediate the negative effects of stress. Based on the general premise that a combination of moderate levels job stress and high levels of perceived control will result in positive outcomes that contribute to building personal competence, the following hypotheses were derived:

- 1) Perceived stress from conflict, ambiguity and overload situations will be negatively correlated with occupational self-esteem, job satisfaction and psychological adjustment.
- 2) Increased levels of perceived stress from conflict, ambiguity and overload situations will be predictive of decreases in occupational self-esteem, job satisfaction, and psychological adjustment.

- 3) Increased levels of stress from conflict, ambiguity and overload situations will be predictive of decreased perceived control.
- 4) Increased levels of stress from conflict, ambiguity and overload situations, mediated by increased levels of perceived control will be predictive of increases in occupational self-esteem, job satisfaction and psychological adjustment.

Method

Instrument Development

Pilot One

Five trainers of the New York State Child Protective Services Training Institute were given descriptions of three categories of job stress; ambiguity, conflict and overload (Kahn, et al., 1964), and were asked to write scenarios depicting these stressors on the CPS job. Six scenarios were invented for each category of job stress. These scenarios were then presented to 40 Child Protective Service workers and the subjects were asked to rate each scenario along the following four dimensions using a Likert rating system: (1) the extent to which they felt that the scenario in question clearly represented the category of stress (0=not at all to 4=extremely); (2) the extent to which they found the scenario representative of actual job situations (0=not at all to 4=almost always); (3) the extent to which the situation depicted was perceived as stressful (0=not at all to 4=extremely) and (4) how often the situation depicted actually occurs (0=not at all to 4=almost always). The results of Pilot One

were compiled and used to revise and modify the scenarios.

Pilot Two

The results from Pilot One were used to revise the scenarios. Forty CPS workers were asked to read 3 sets of 3 scenarios depicting each category of job stress. After reading each set they were asked the following standard questions to assess stress: (1) "How much do situations like these bother you when they occur on your job?" (Perceived Stress); and (2) "When situations like these occur on your job, to what extent do you feel that it is within your power to change the situation?" (Perceived Control). The results indicated that the scenarios were understood by the subjects and could be used in further testing.

Main Study

Subjects

Subjects in this study were 129 civil service employees working in the Child Protective Services in Upstate New York. The sample consisted of 38 males and 91 females. The mean age of the sample was 33.6 with a standard deviation of 8.4. The majority of the sample was White (91.5%) and the range of time on the job was from 1 to 10 years.

Procedures

The collection of data was done in a training room setting. Subjects were presented with a questionnaire designed to measure their perceptions in regards to three categories of job stress: job ambiguity, job conflict and job overload, as well as personal and organizational outcomes. Subjects were directed to read 3 scenarios that depicted instances on their job of one particular category of job stress and were then asked to report how

stressful it was for them when it occurred (perceived stress) and the extent to which they felt that they could control the source of stress (perceived control). Subjects were allowed to take as much time as needed to complete the survey. All questionnaires were anonymous.

Measures

1. Perceived Stress

Stress was measured for each situation using a one-item scale. After being presented with a scenario depicting a particular type of job stressor, subjects responded to how stressed they felt when encountering such situations using a Likert rating scale of 0 to 4 (0 corresponding to a response of "not at all" and 4 corresponding to a response of "extremely"). When summed across the 3 job stress situations, the three-item scale yielded a Cronbach's alpha of .64.

2. Perceived Control

Control was measured using a one-item scale. After being presented with a scenario depicting a particular type of job stressor, subjects responded to how much they felt that they could change such situations using a Likert rating scale of 0 to 4 (0 corresponding to a response of "cannot change at all" and 4 corresponding to a response of "can completely change"). When summed across the 3 job stress situations, the three-item scale yielded a Cronbach's alpha of .74.

3. Organizational and Psychological Outcomes

Job satisfaction, occupational self esteem were assessed using standard scales for each (Kahn et al., 1964). Psychological adjustment was measured using the Hopkins Symptom Checklist (58-item version) derived

from the Cornell Medical Index (Derogatis, Lipman, Rickels, Uhlenhuth and Covi, 1974). Subjects reporting high amounts of symptoms were assigned a low psychological adjustment score. Cronbach's alphas for each scale were job satisfaction (.67), occupational self-esteem (.77) and psychological adjustment (.99).

Results

In general this sample perceived their job to be moderately high in stress and low in control. The amount of perceived stress was found by calculating the mean of the job stress items for each type of job stressor. This sample reported overload situations to be the most stressful type of job stress, which is consistent with prior findings (Kahn et al., 1964). The calculated means for perceived stress for each situation were: for overload situations ($\bar{M} = 2.9$; $SD = 0.9$); for conflict situations ($\bar{M} = 2.6$; $SD = 0.9$) and for ambiguous situations ($\bar{M} = 2.5$; $SD = 1.0$). In all three situations, women reported slightly, but not significantly, more perceived stress than men.

The amount of perceived control was found by calculating the mean of the perceived control items for each type of job stressor. Subjects seemed to feel the least amount of control over overload situations, more over conflict situations and the most control over ambiguous situations. The calculated means for perceived control for each situation were: for overload situations ($\bar{M} = 0.68$; $SD = 0.65$); for conflict situations, ($\bar{M} = 0.72$; $SD = 0.69$) and ambiguous situations ($\bar{M} = 0.81$; $SD = 0.76$). Overall this sample

had a very low level of perceived control. Men reported having slightly, but not significantly, more control than women over all three situations. The amount of time on the job was not significantly related to any of the variables previously mentioned.

The results of the additional analysis will be discussed in terms of the aforementioned hypotheses. Zero-order correlations and Ordinary least squares regression procedures were used to test the hypotheses. Results for the multiple regression analyses are displayed in figure format. The figures contain causal models that correspond to a particular hypothesis. The beta weights from the multiple regression equations are printed on the model.

For Hypothesis #1, the results of the Zero-order correlations yielded mixed support. Perceived stress from conflict situations was negatively correlated with psychological adjustment ($r = -.25$; $p < .01$), not significantly correlated with job satisfaction ($r = -.09$; $p = \text{n.s.}$) and positively correlated with occupational self-esteem ($r = .18$; $p < .05$). Perceived stress from overload situations was negatively correlated with psychological adjustment ($r = -.37$; $p < .001$) and job satisfaction ($r = -.29$; $p < .01$) but not significantly correlated with occupational self-esteem ($r = -.06$; $p = \text{n.s.}$). Perceived stress from ambiguity situations was not related to any competency. The results of this analysis are displayed in Table 1.

Insert Table 1 about here

In terms of Hypothesis #2, the results of the multiple regression analysis yielded mixed support for this hypothesis. Only increased levels of perceived stress from conflict and overload situations were significantly predictive of decreased levels of psychological adjustment ($\beta = -.25, p < .01$; $\beta = -.36, p < .001$). Increased levels of perceived stress in overload situations were predictive of decreased job satisfaction ($\beta = -.31, p < .001$). The results of this analysis are displayed in Table 2.

Insert Table 2 about here

In terms of Hypothesis #3, the results of the multiple regression analysis supported this hypothesis. Increased levels of perceived stress from conflict, ambiguity and overload situations were predictive of decreased perceived control ($\beta = -.41, -.29, -.36; p < .001$). The results of this analysis are displayed in Table 3.

Insert Table 3 about here

In terms of Hypothesis #4, the results of the multiple regression analysis yielded some support for this hypothesis. In conflict situations, perceived stress was predictive of the development of low psychological adjustment only. Perceived stress was mediated by perceived control in this case, but was not significantly predictive of the development of high

psychological adjustment. Perceived stress mediated the effects of stress from conflict situations on the development of job satisfaction and was predictive of high job satisfaction, lending support to this hypothesis. Results from this analysis are presented in Figure 1. In ambiguity situations, perceived stress was not predictive of the development of any categories of competency therefore no mediating effects of perceived control were found. Results from this analysis are presented in Figure 2. In overload situations, perceived stress was predictive of the development of low psychological adjustment and low job satisfaction. Perceived stress was mediated by perceived control in both cases but was not significantly predictive of the development of high psychological adjustment and high job satisfaction.

Insert Figures 1, 2 & 3 about here

Discussion

In general the findings indicate that stress from certain categories of job experiences was related to and predictive of the development of some competencies and not others. In all cases where stress was predictive of the development of a competency, perceived control served to mediate the negative effects of stress.

In terms of Hypothesis #1, the results indicate that in general, stress is not always associated with a negative outcome as previously discussed by

Murphy (1962). Certain categories of stress were associated with certain types of competencies. For example, stress from conflict situations was positively related to occupational self-esteem. This is not consistent with prior findings from Kahn et al. (1964) but lends support to Block's (1971) notion that the experience of stress and the practice of behaviors used to cope with stress may build competence. Perceived stress from conflict situations was negatively related to psychological adjustment, as one would expect based on prior findings (Kahn, et al., 1964). Stress from ambiguous situations was not related to any of the competencies. This is unexpected based on prior findings (Kahn, et al., 1964). Stress from overload situations was negatively related to psychological adjustment and job satisfaction, as one would expect based on prior findings (Kahn, et al., 1964).

The analysis of Hypothesis #2 lend support to the conclusions drawn from the analysis of Hypothesis #1. Any predictive association between a category of stress and a particular competency is taken to indicate that the experience with that particular type of stressor may play a role in the development of that competency. It is evident that stress from conflict situations plays a role in the development of psychological adjustment and stress from overload situations plays a role in the development of psychological adjustment and job satisfaction. Stress from ambiguity situations does not seem to play a role in the development of any competency.

The findings from the analysis of Hypothesis #3 are consistent with the literature on the experience of chronic stress on the development of perceived control. As stress is experienced on a long-term, chronic basis,

one's perception of control over the stress and one's environment decreases (Seligman, 1975; Seligman & Schulman, 1986). This finding was taken as an indication of the chronicity of stress in this sample.

In terms of Hypothesis #4, whenever perceived stress predicted the development of a particular competency, perceived control served to mediate the negative effects of the stress. In one instance, perceived control enhanced the experience of stress on the development of job satisfaction suggesting that in this sample, stress from conflict accompanied by perceived control over the stress may help the worker to develop a high level of job satisfaction.

In conclusion, it appears that stress in this sample is not always experienced as noxious to the individual and, when it arises due to certain conditions in combination with perceived control, it may be beneficial. Replication of this study with a population with the same level of perceived stress and more perceived control is necessary to examine further the mediating role of perceived control in the development of competencies. A longitudinal design is recommended to assess how workers new to the job develop particular competencies under certain conditions of stress over time. Replication of this study using a comparison sample of workers in a high stress job, who did not choose to work in that job, is also recommended to study the development of perceived control in a stressful situation that is involuntary in nature. It is believed that the findings from this study, in conjunction with the suggested replications, will shed light on where to target future stress management efforts. At present, it appears as if

finding ways to increase an employees level of perceived control is the most obvious place to start.

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Table 1

Zero-order Correlations Between Perceived Stress and Competencies

Type of stress	Competency		
	Occupational Self-esteem	Psychological Adjustment	Job Satisfaction
Conflict	.18*	-.25**	-.09
Ambiguity	-.02	-.13	-.13
Overload	-.06	-.37***	-.29**

*p<.05 **p<.01 ***p<.001

Table 2

Beta Weights from the Multiple Regression Analysis Predicting Competencies From Perceived Stress

Type of stress	Competency		
	Occupational Self-esteem	Psychological Adjustment	Job Satisfaction
Conflict	.17	-.25**	-.08
Ambiguity	-.02	-.13	-.13
Overload	-.06	-.36***	-.31***

*p<.05 **p<.01 ***p<.001

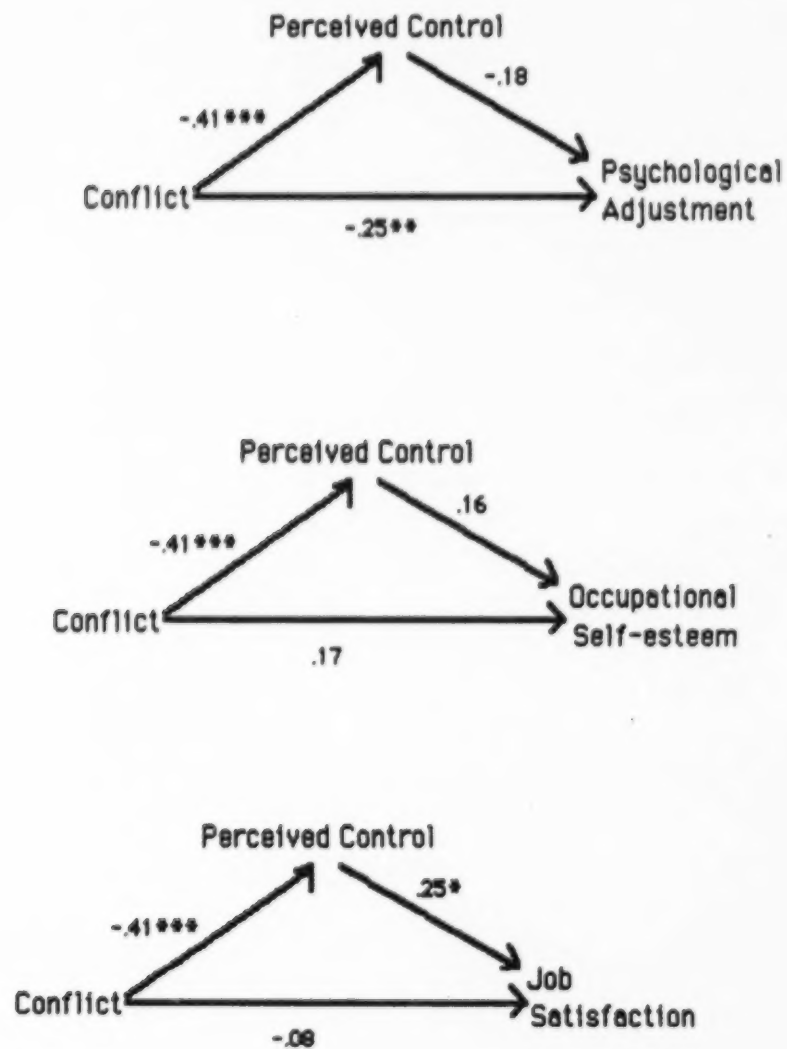
Table 3

Beta Weights from the Multiple Regression Analysis Predicting Perceived Control From Perceived Stress

Perceived Control	
Type of stress	
Conflict	-.41***
Ambiguity	-.29***
Overload	-.36***

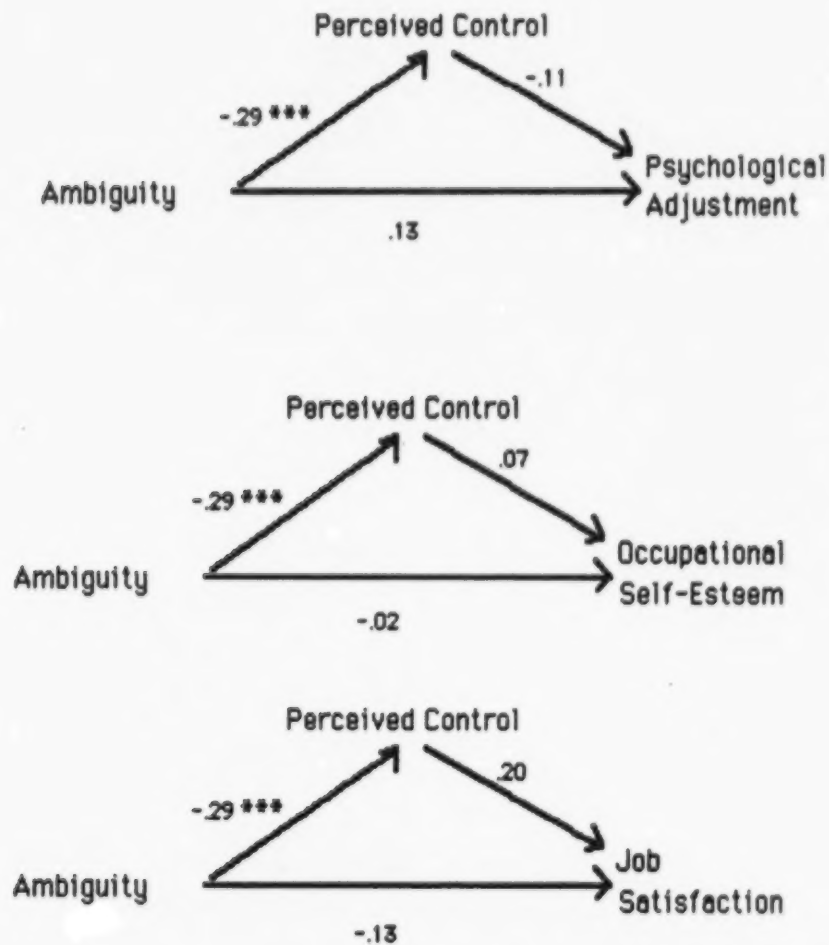
*p<.05 **p<.01 ***p<.001

Figure 1. Causal Model Predicting Competency from Perceived Stress from Conflict Situations Mediated by Perceived Control.



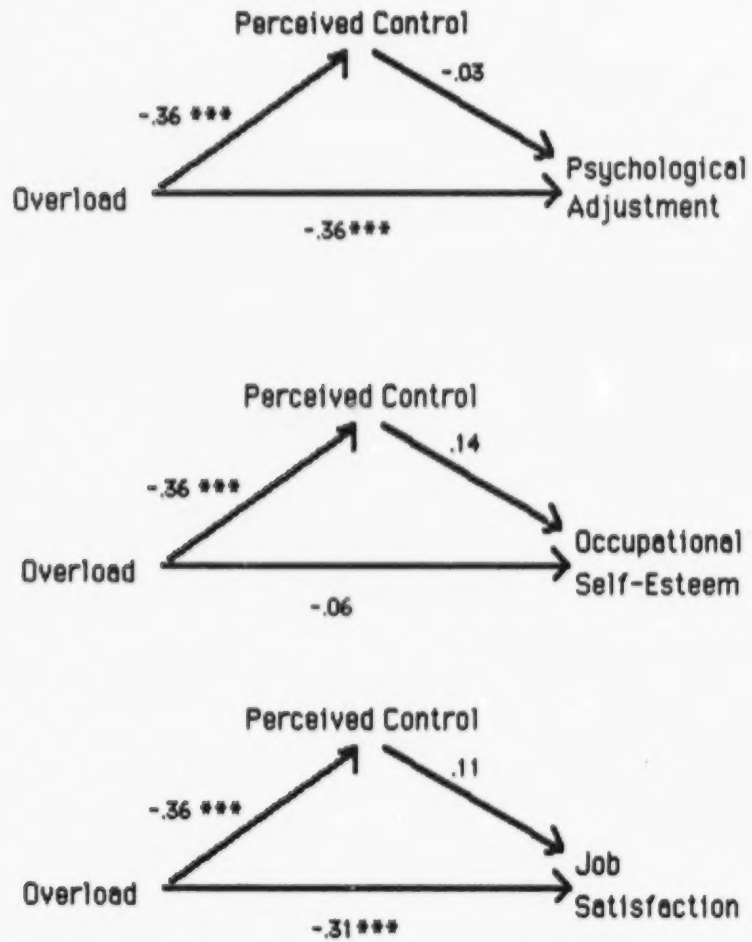
* $p < .05$ ** $p < .01$ *** $p < .001$

Figure 2. Causal Model Predicting Competency from Perceived Stress from Ambiguity Situations Mediated by Perceived Control.



* $p < .05$ ** $p < .01$ *** $p < .001$

Figure 3. Causal Model Predicting Competency from Perceived Stress from Overload Situations Mediated by Perceived Control.



* $p < .05$ ** $p < .01$ *** $p < .001$